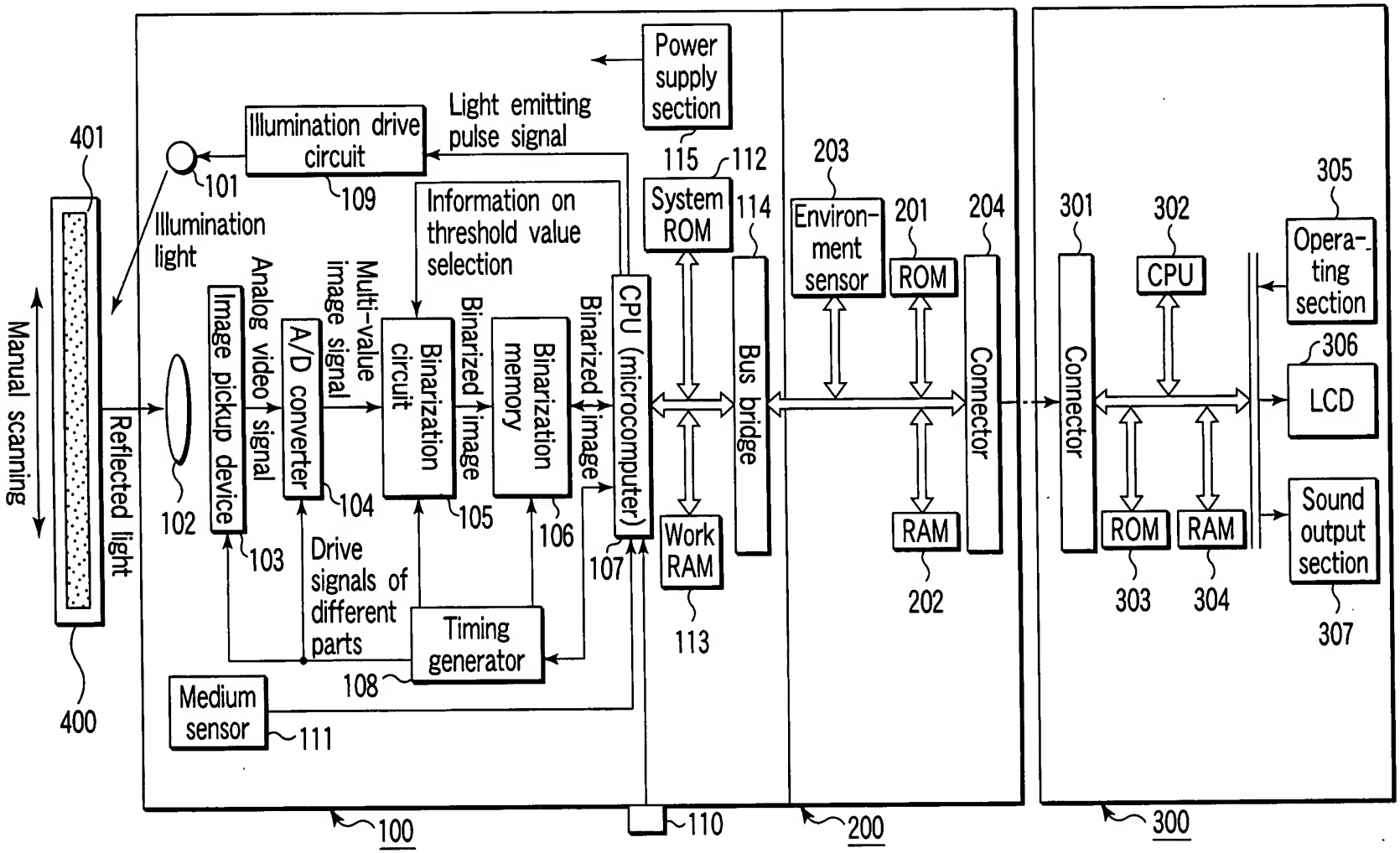


FIG. 1

FIG. 2

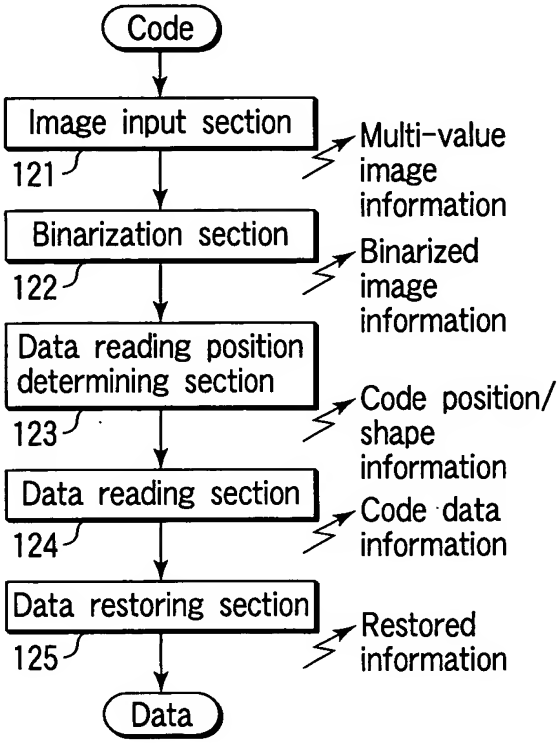


FIG. 3

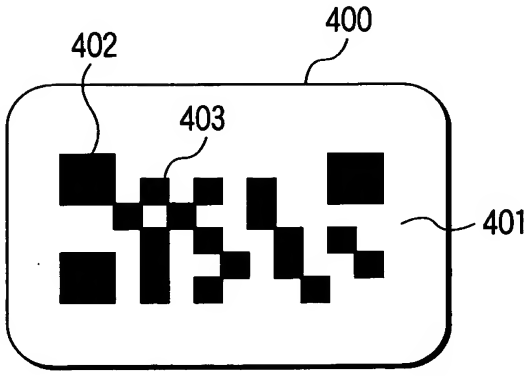


FIG. 4

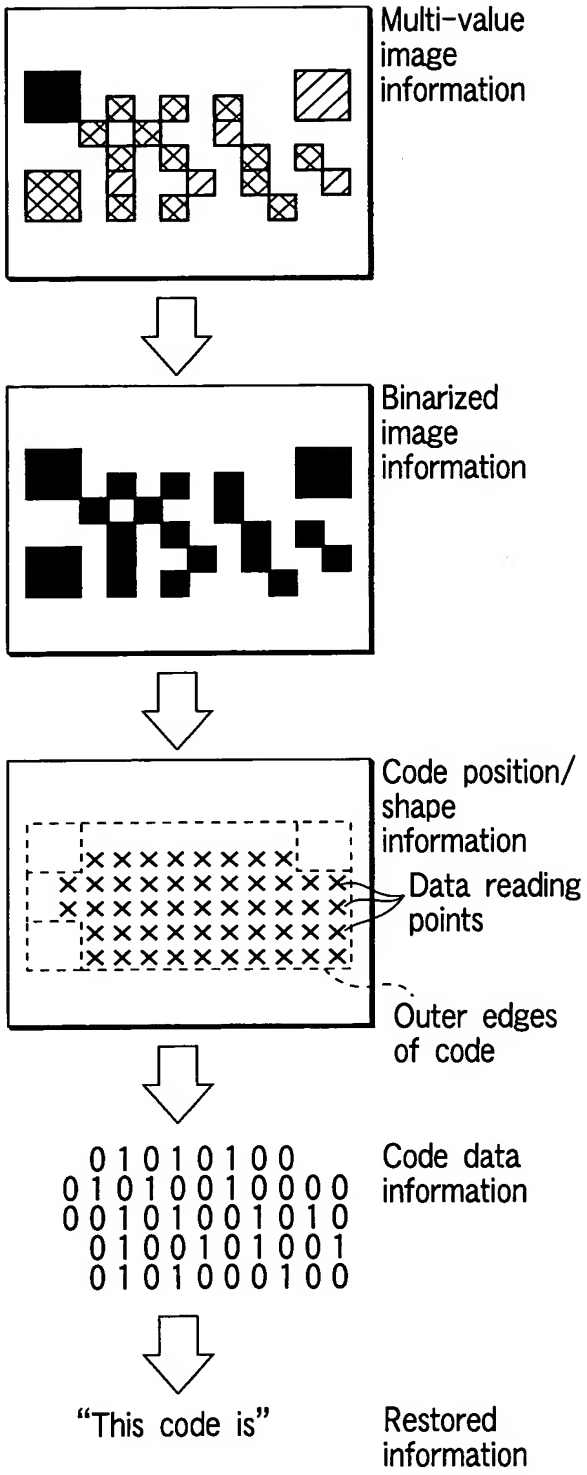


FIG. 5

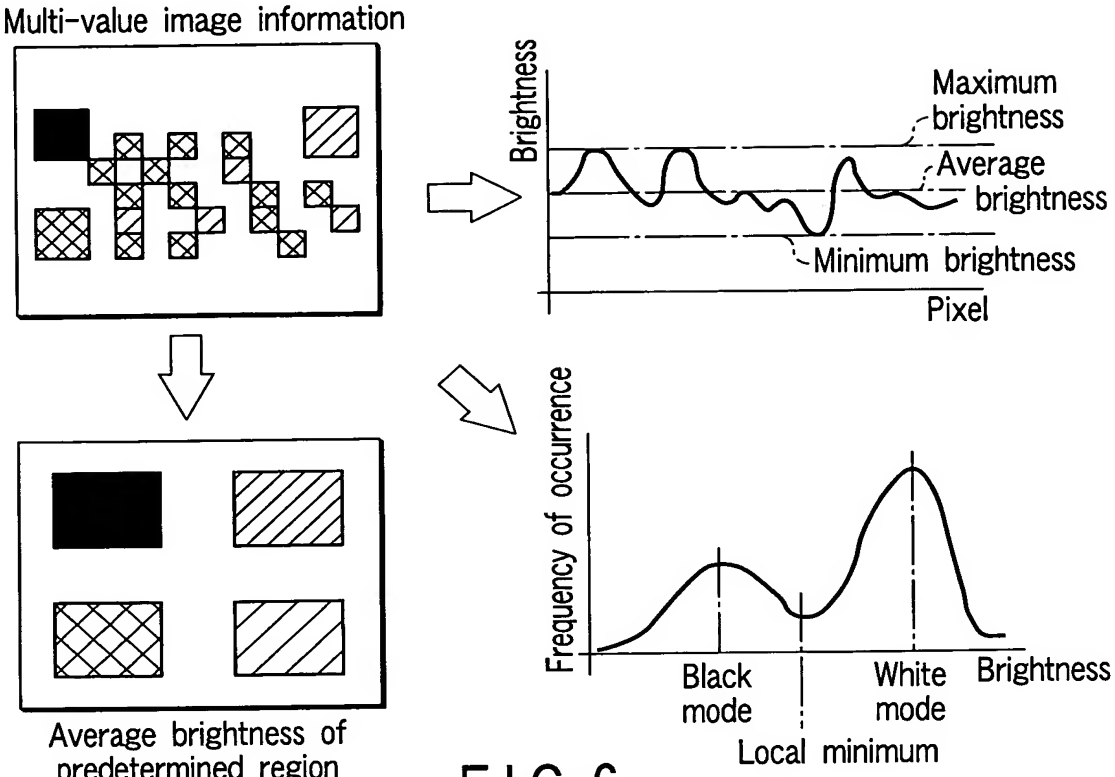


FIG. 6

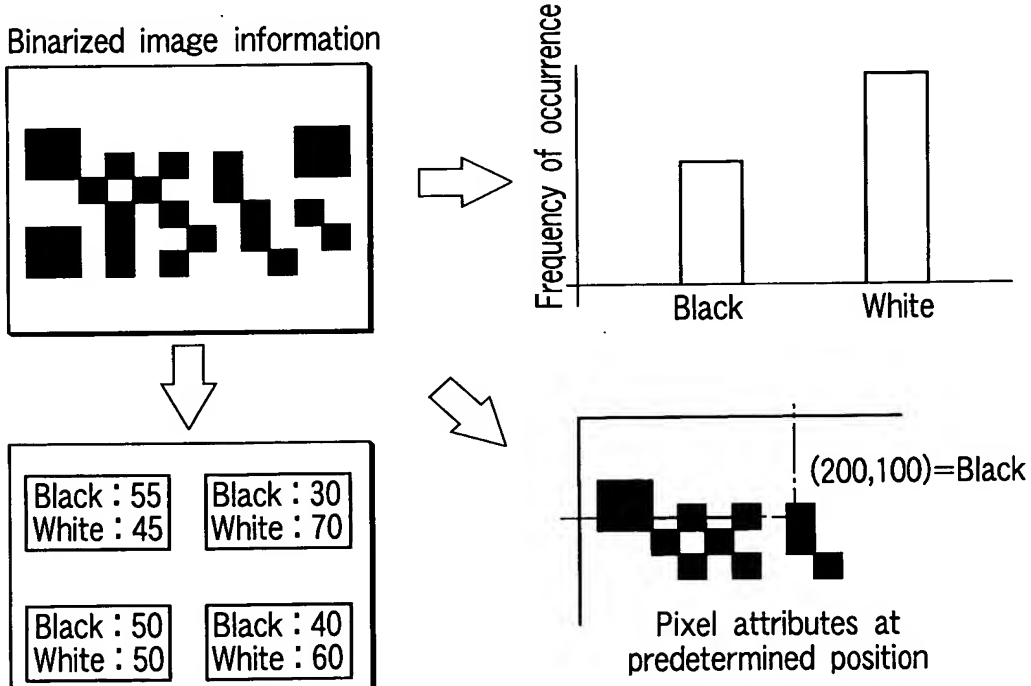


FIG. 7

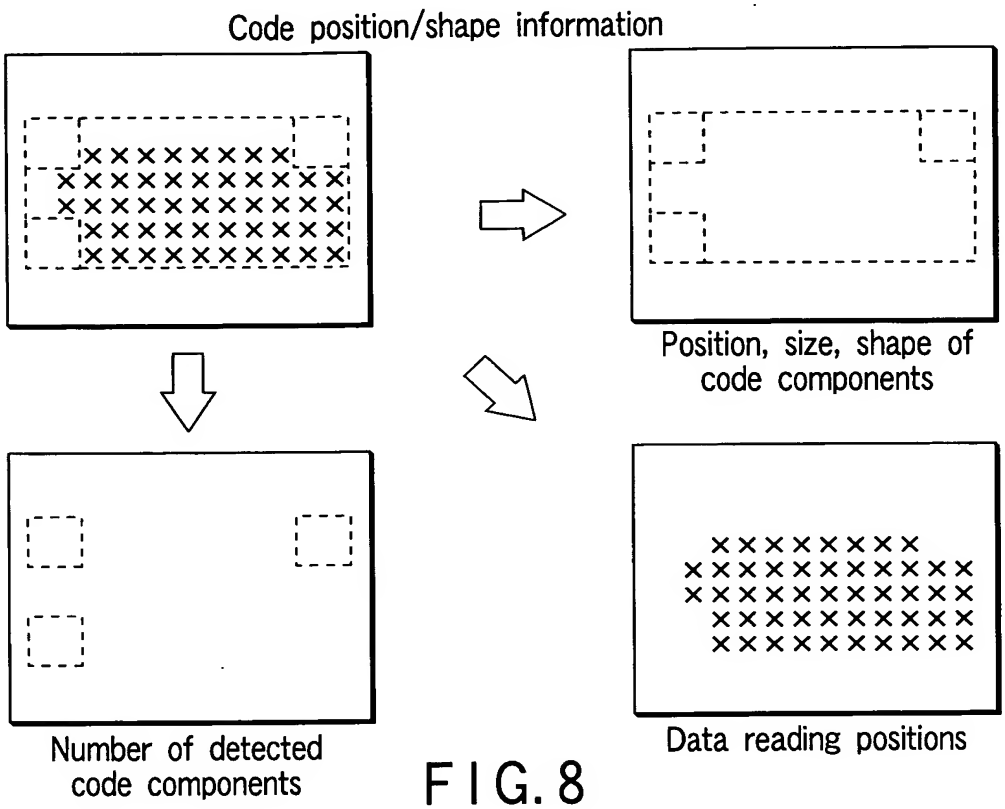


FIG. 8

Code data information

0 1 0 1 0 1 0 0
0 1 0 1 0 0 1 0 0 0 0
0 0 1 0 1 0 0 1 0 1 0
0 1 0 0 1 0 1 0 0 1
0 1 0 1 0 0 0 1 0 0

Number of 0s, number of 1s
Number of inverted 0s and 1s
Data length
Number of 0s and 1s in a predetermined length
.....

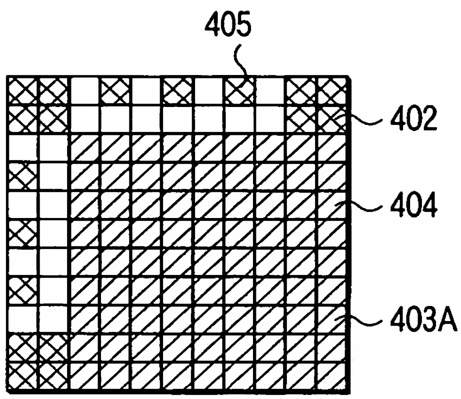
FIG. 9

Restored information

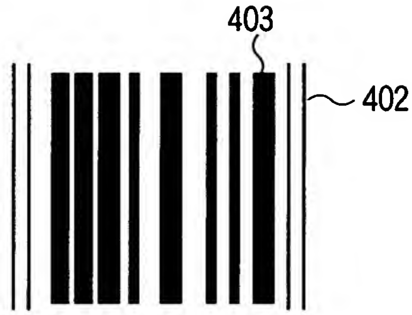
"This code is"

Type of information (image, text, sound, ···)
Length of information (number of bytes, time, ···)
Contents of information (producer, ID, ···)
.....

FIG. 10

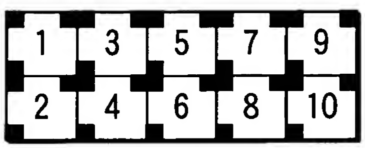


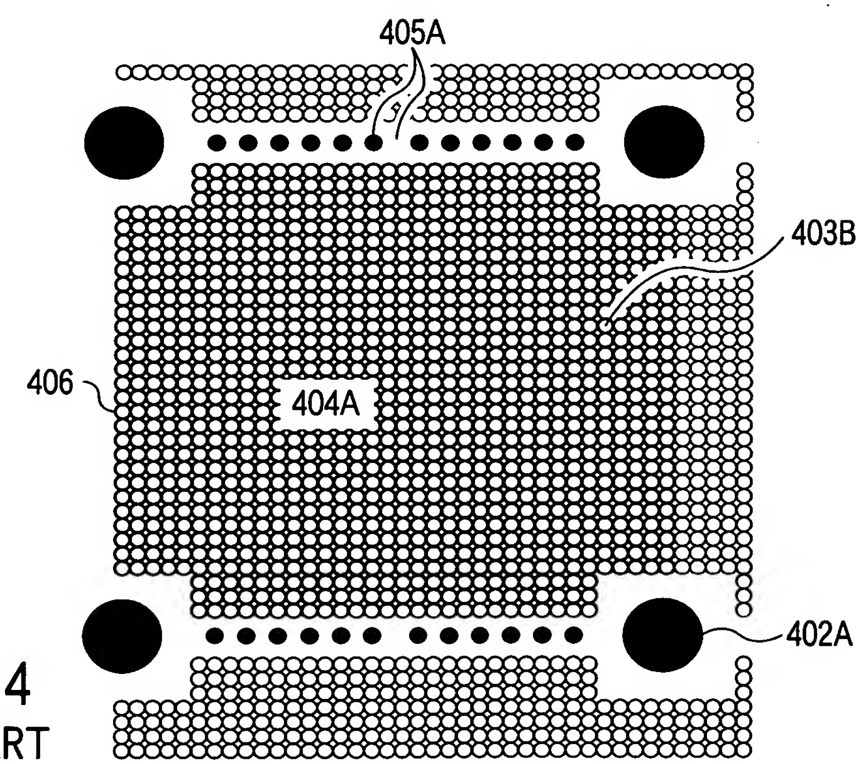
F I G. 11
PRIOR ART



F I G. 12
PRIOR ART

F I G. 13
PRIOR ART





F I G. 14
PRIOR ART

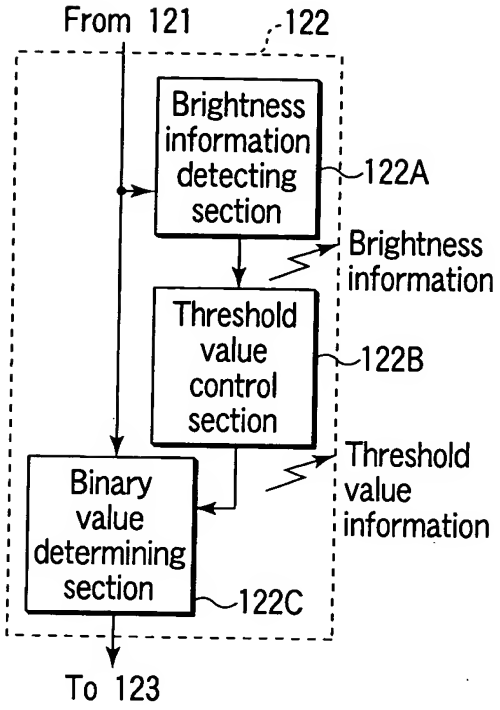


FIG. 15

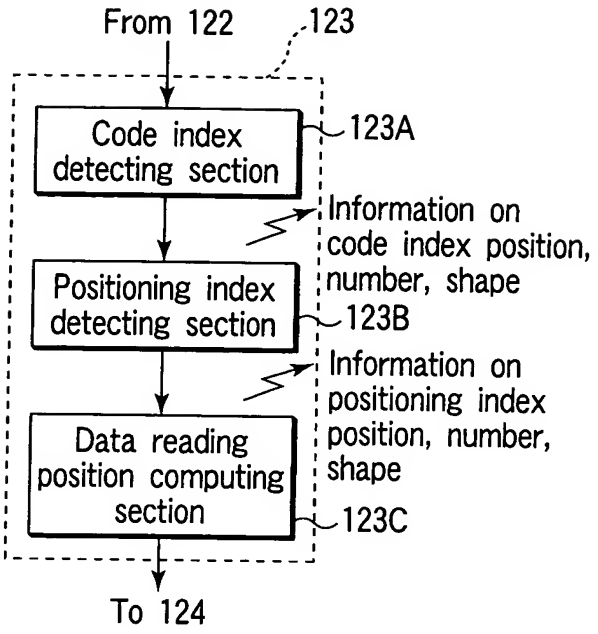


FIG. 16

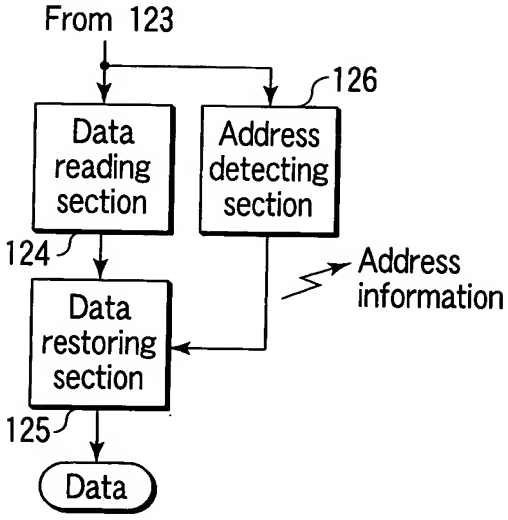


FIG. 17

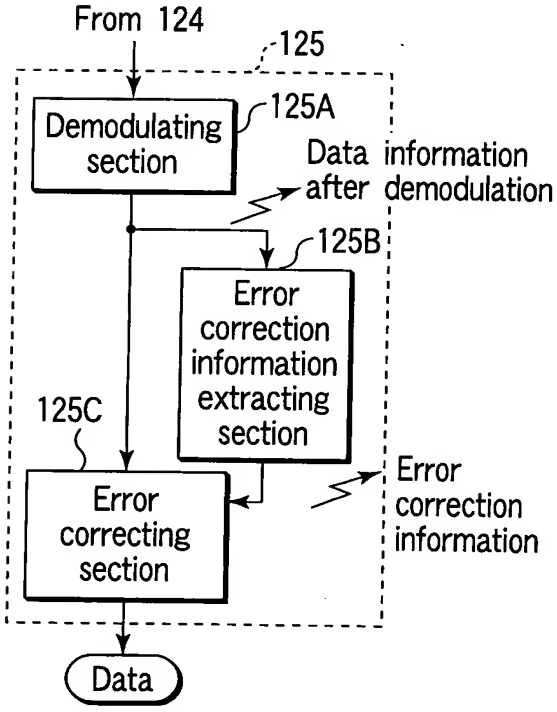


FIG. 18

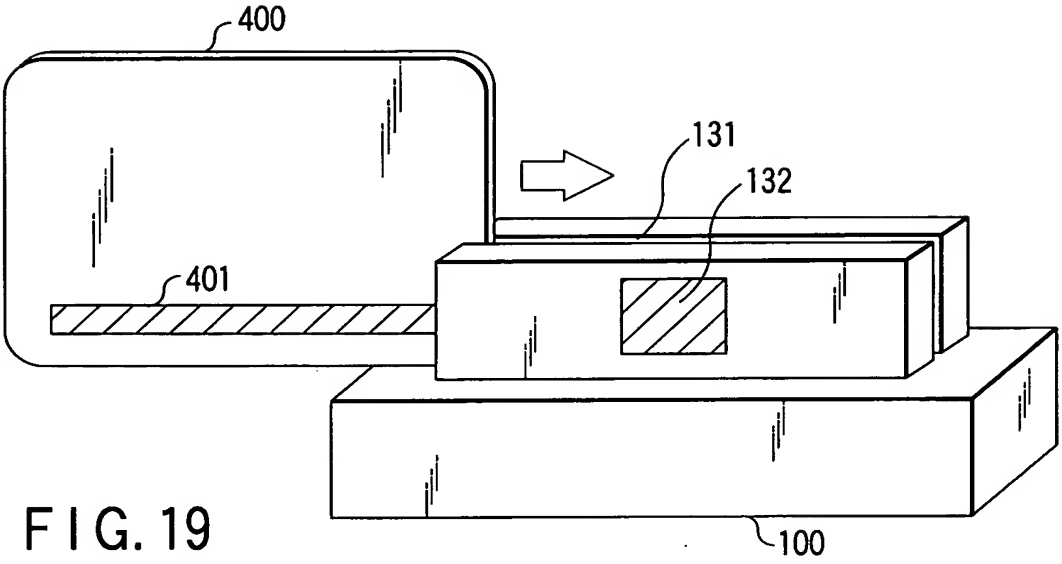


FIG. 19

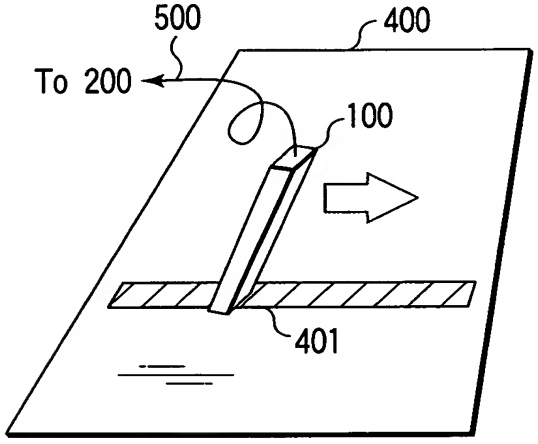


FIG. 20

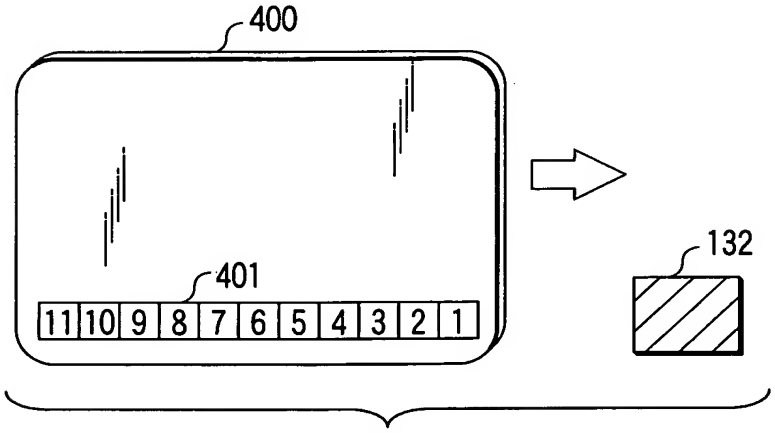


FIG. 21

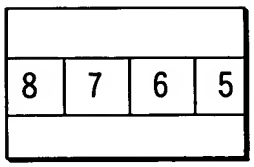


FIG. 22

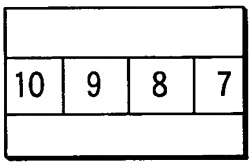


FIG. 23

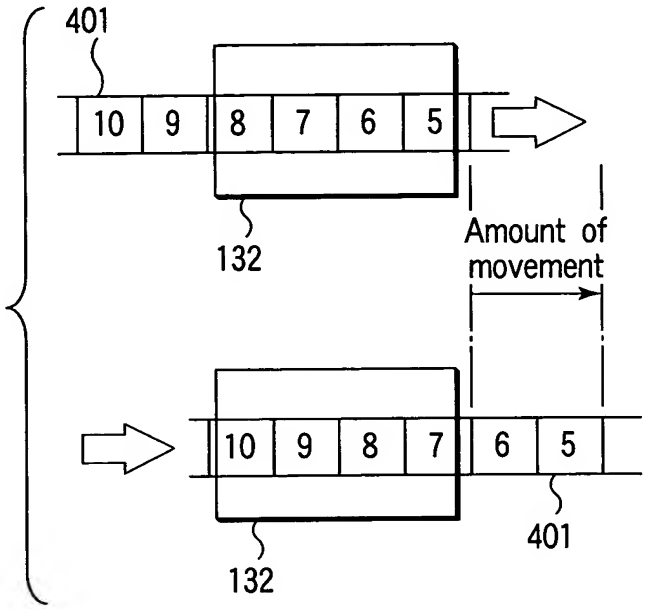


FIG. 24

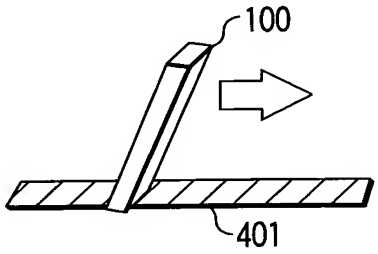


FIG. 25

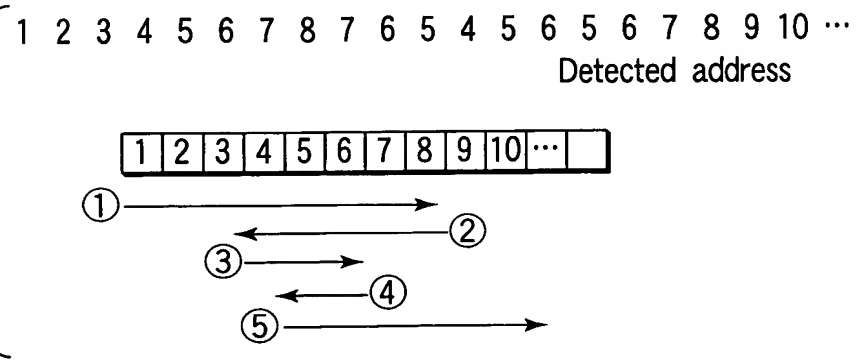
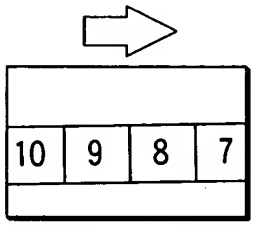
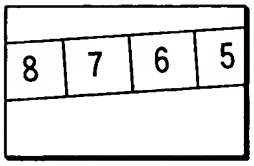


FIG. 30



Picked up image

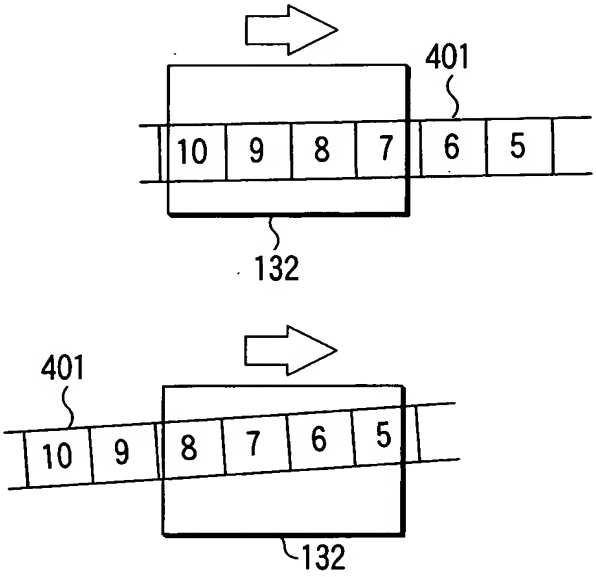
FIG. 26



Picked up image

FIG. 27

FIG. 28



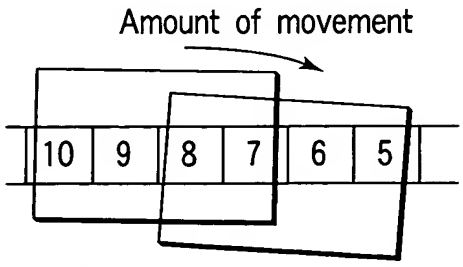


FIG. 29

Picked up images

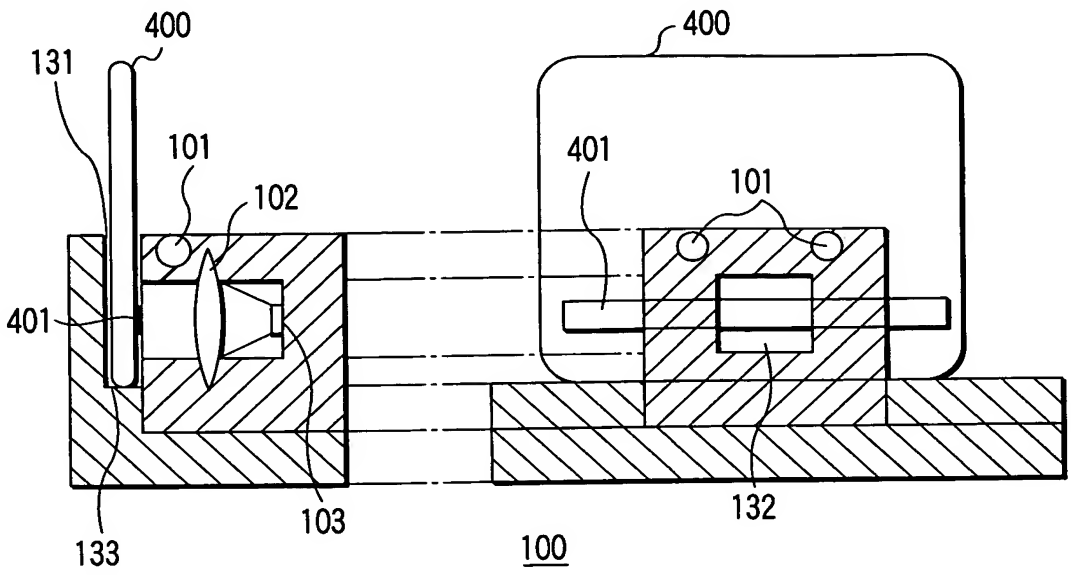
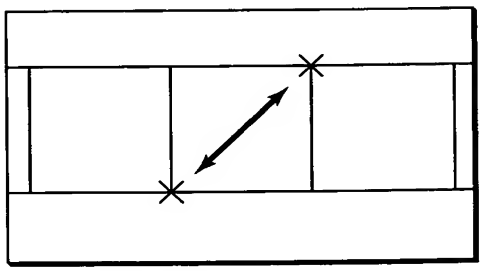
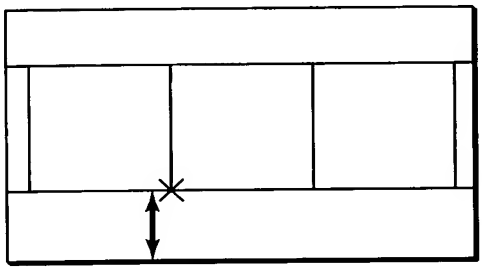


FIG. 31



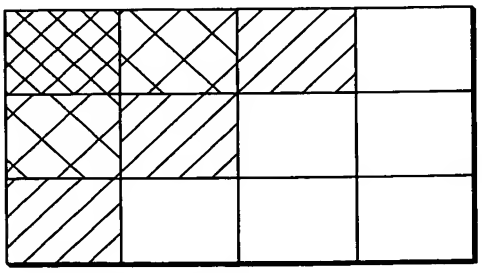
Parameter relating to lens magnification

FIG. 32



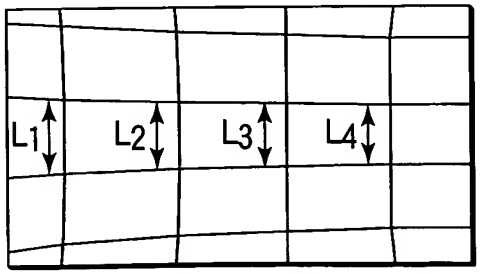
Parameter relating to guide position

FIG. 33



Parameter relating to lighting condition

FIG. 34



Parameter relating to distortion

FIG. 35

Detected information	Acquired parameter	Parameter relating to code reading operation	Parameter relating to way of reading code	Parameter relating to recording medium	Parameter relating to code reading apparatus
Environment information	Reading environment (temperature; humidity; time; position; atmospheric pressure)	○			○
	Power supply rising time; supply voltage				○
Multi-value image information	Maximum brightness (suspension, tilt; lighting intensity, sensor sensitivity; reflectivity)	○	○	○	○
	Minimum brightness (suspension, tilt; lighting intensity, sensor sensitivity; reflectivity)	○	○	○	○
	Average brightness (suspension, tilt; lighting intensity, sensor sensitivity; reflectivity)	○	○	○	○
	Brightness distribution (suspension, tilt; lighting intensity, sensor sensitivity; reflectivity)	○	○	○	○
	Average brightness of predetermined region	○	○	○	○
	Ratio of maximum brightness/minimum brightness (density)			○	
	Brightness of code components	○	○	○	○

FIG. 36A

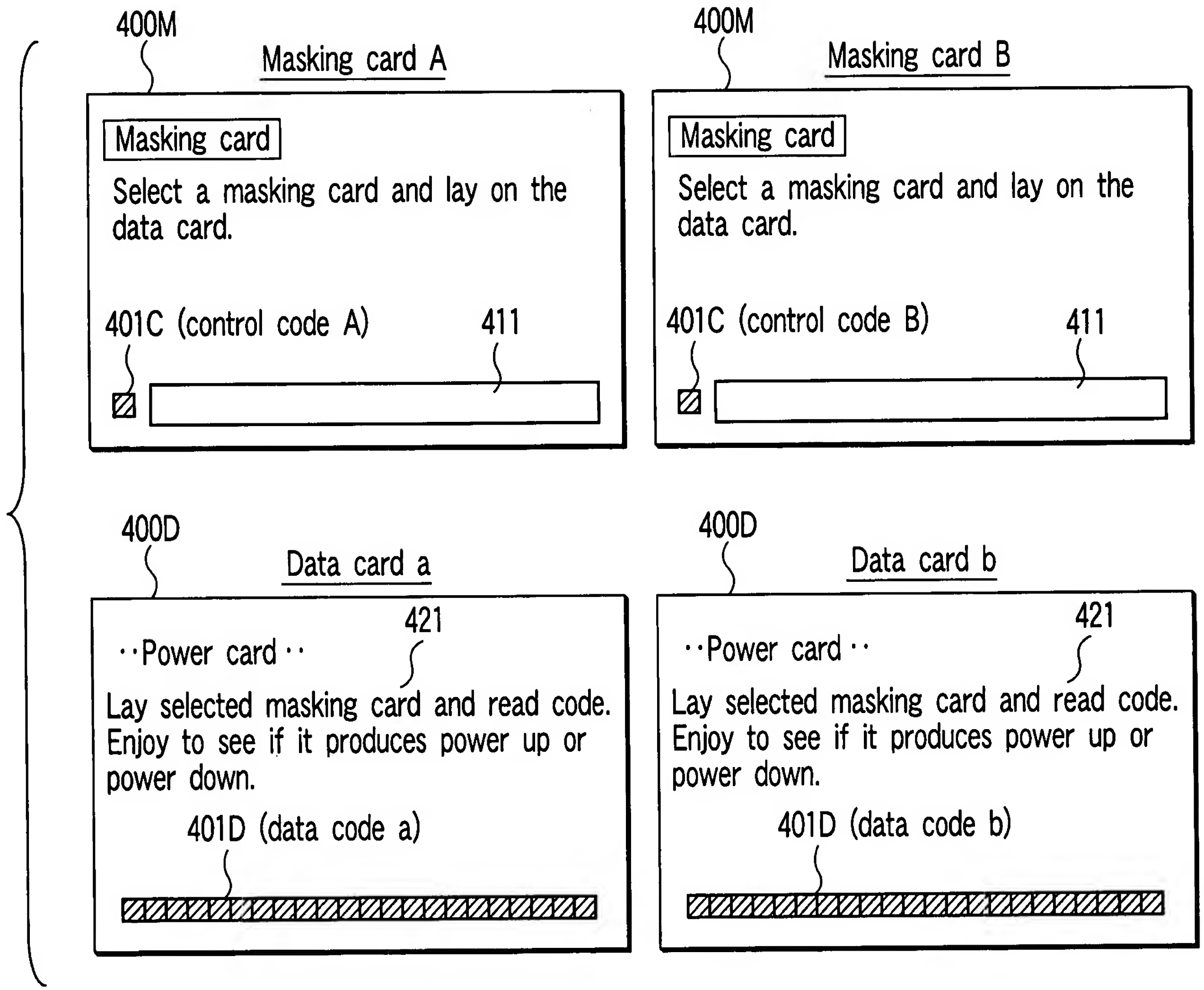
Threshold value information	Threshold value			○	○
Binarized image information	Number of black pixels			○	○
	Ratio of white pixels/black pixels			○	
Information on positions, number, shape of code indexes (positioning indexes)	Code indexes detecting positions	○	○	○	○
	Number of detected code indexes	○	○		
	Size of code indexes	○	○	○	○
	Shape of code indexes	○	○	○	○
	Center of gravity/center position of code indexes	○	○	○	○
	Intervals separating code indexes (size of code; size of block)	○	○	○	○
	Positional relationship of code indexes (shape of code; shape of block)	○	○	○	○
	Missing information of code indexes	○	○	○	○
Address information	Address	○	○		
	Number of corrected address errors (missing address data)	○	○	○	
	Positions of corrected address errors			○	
	Address missing information	○	○	○	○

FIG. 36B

Code data information	Data reading positions	○	○	○	
	Number of black dots, number of white dots			○	
	Black/white ratio			○	
	Data length			○	
	Number of read blocks	○	○	○	
Demodulated data information	Number of 1s; number of 0s			○	
	1/0 ratio			○	
Error correction information	Number of corrected errors (missing data)	○	○	○	
	Positions of corrected errors			○	
Restored information	ID; producer; type of information			○	
	Recording time; amount of data			○	
Relative movement information	Moving speed	○	○		
	Moving direction	○	○		
	Number of movements	○	○		
	Meandering	○	○	○	○
	Time spent from command input to shooting of code at predetermined	○	○		

○ represents particularly effective parameter

FIG. 36C



F I G. 37

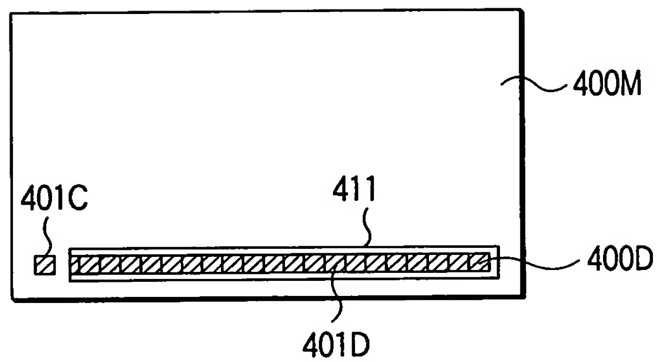


FIG. 38

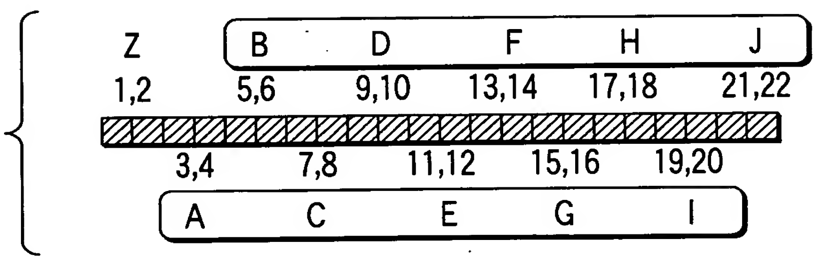


FIG. 39

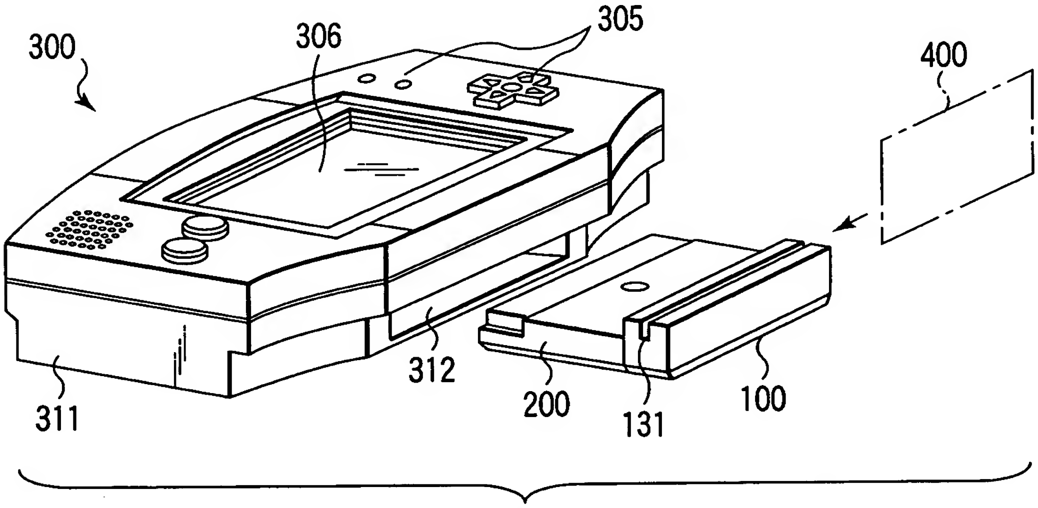


FIG. 40

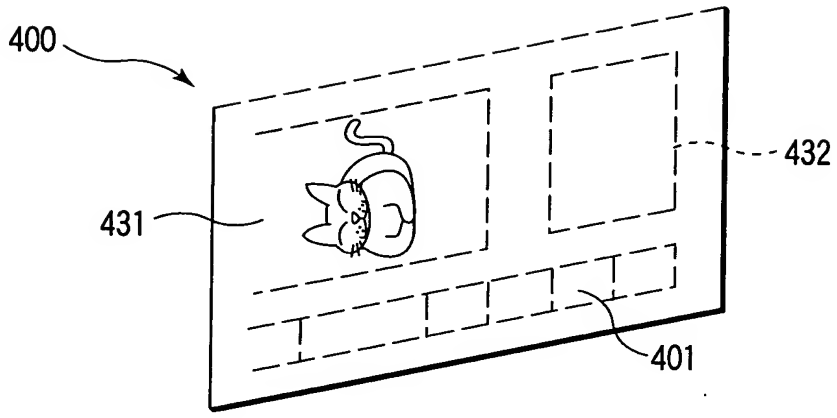


FIG. 41

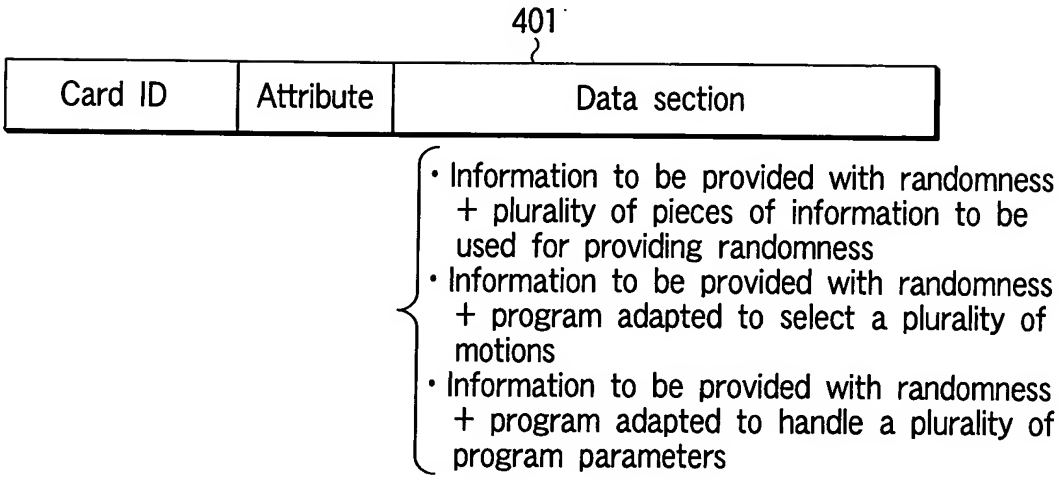
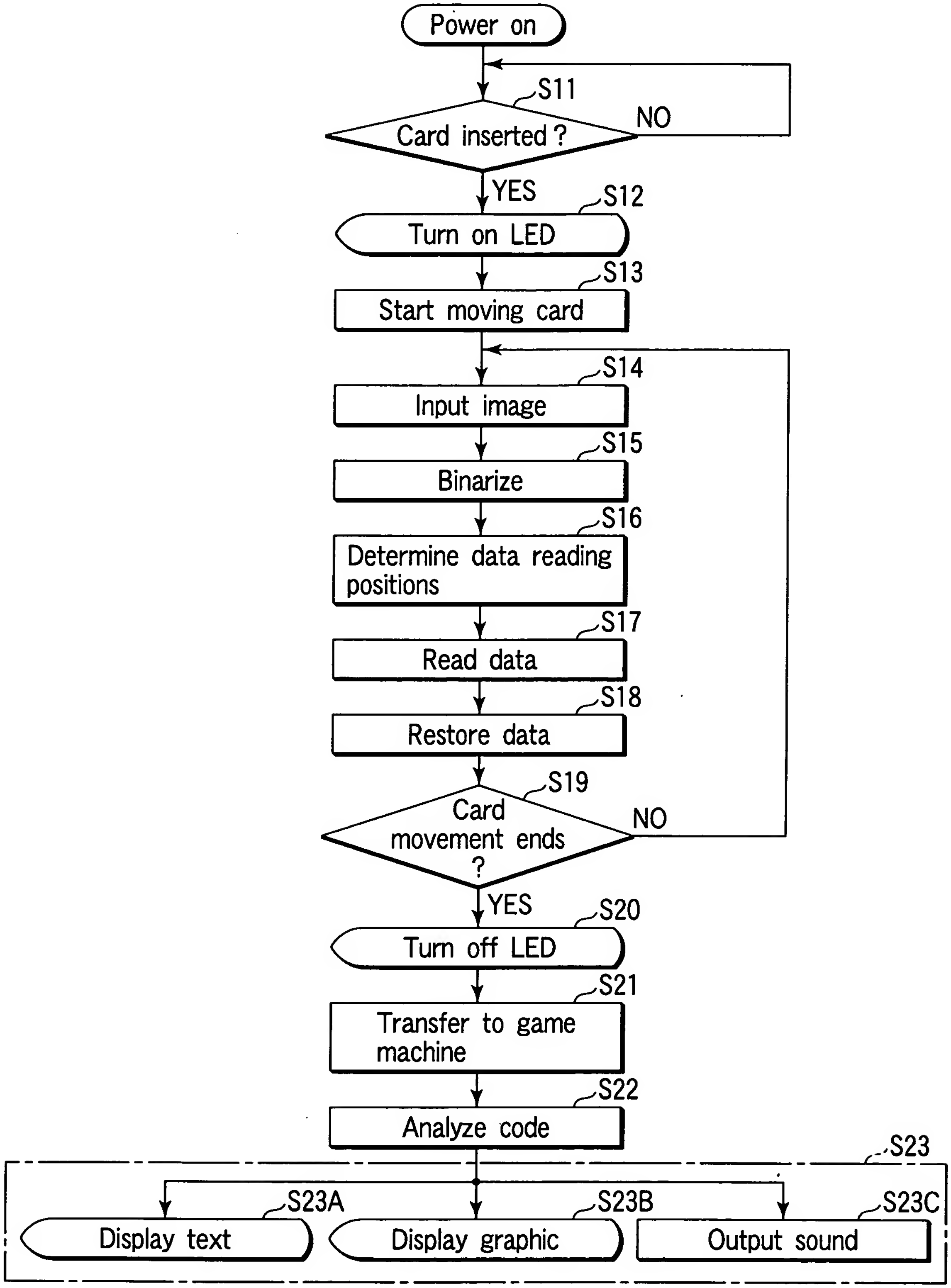


FIG. 42



F I G. 43

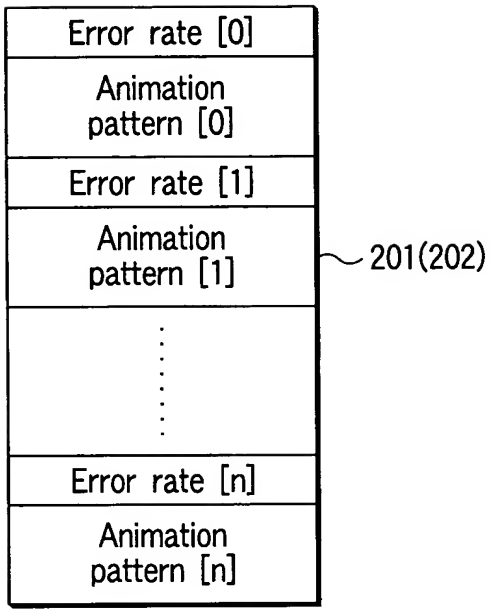


FIG. 44

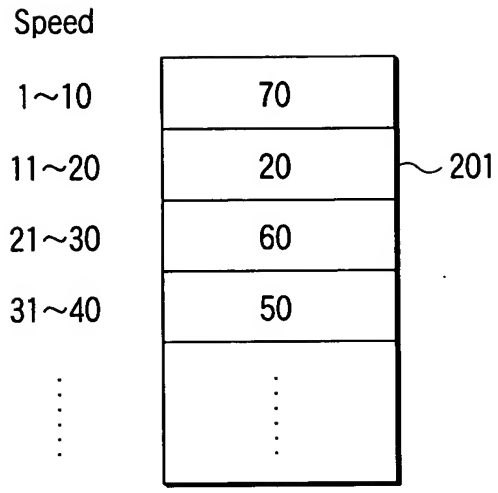


FIG. 50

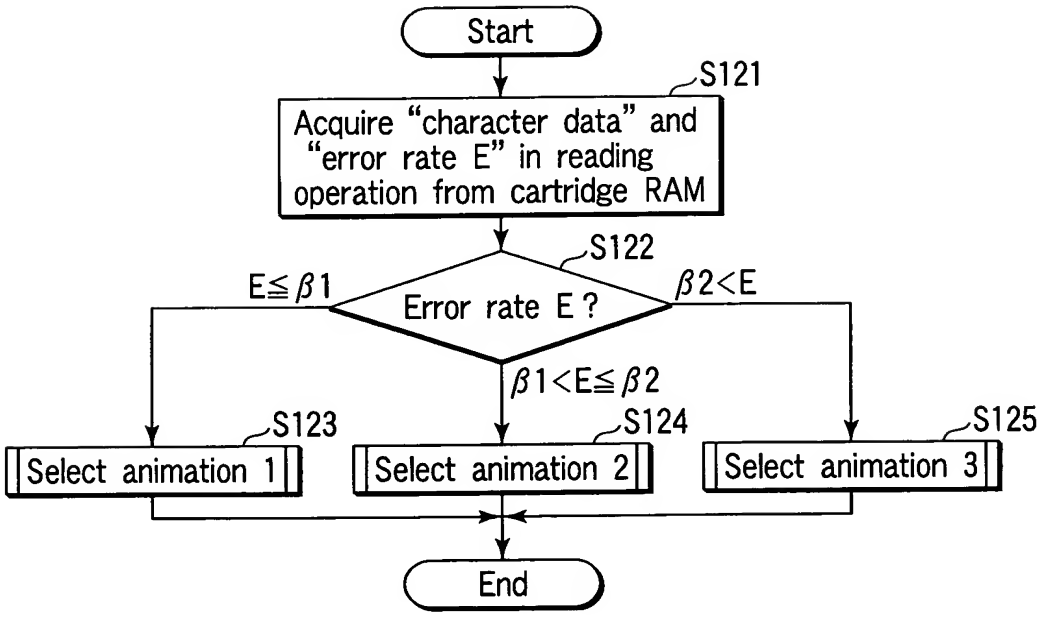


FIG. 46

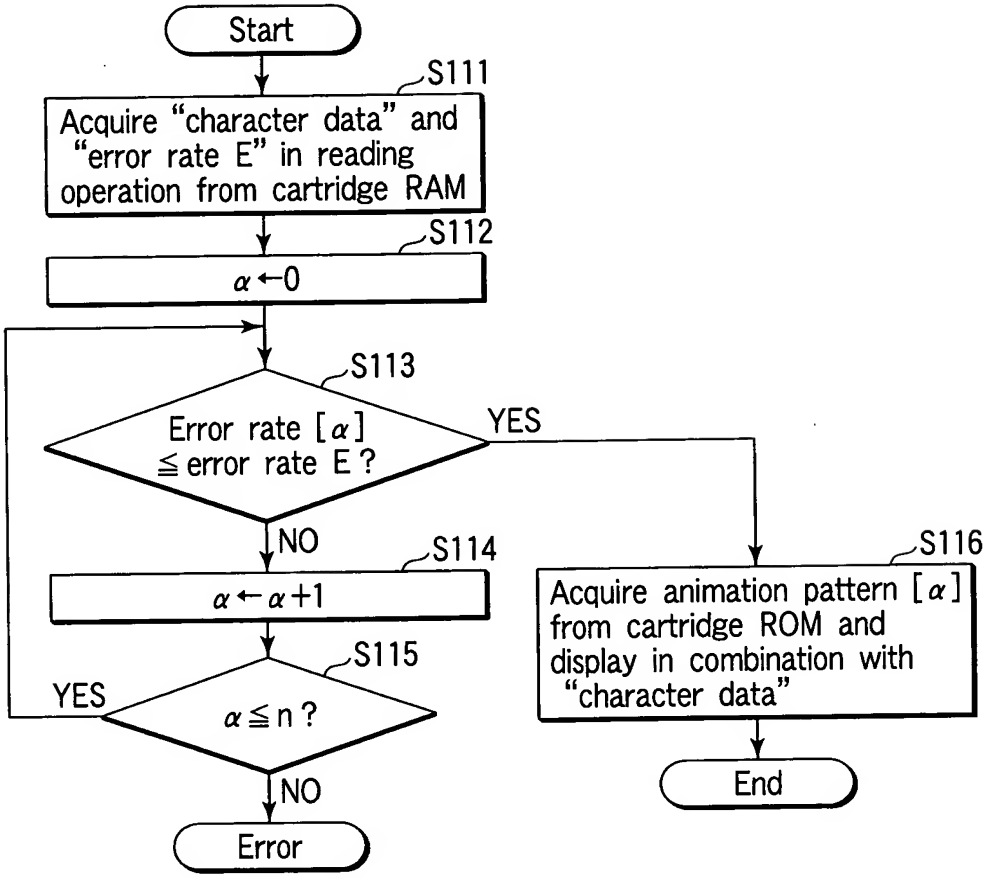


FIG. 45

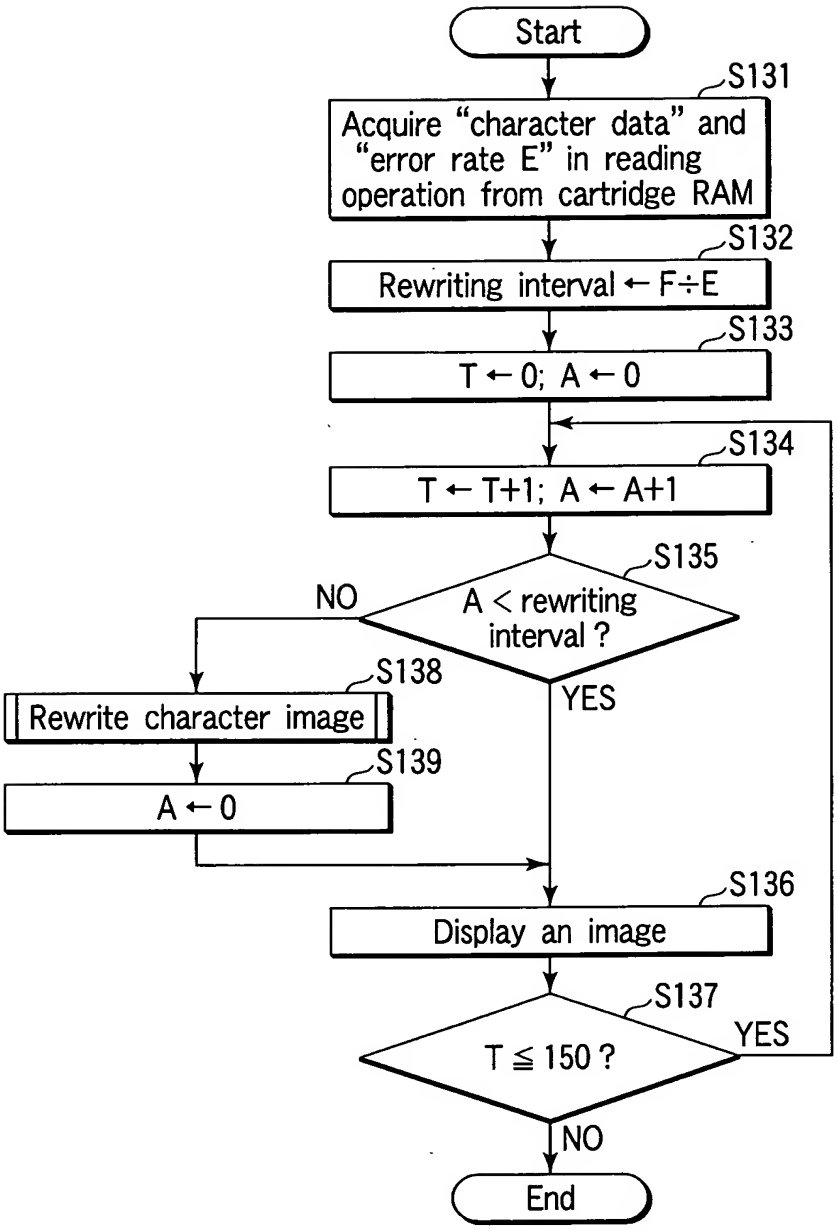


FIG. 47

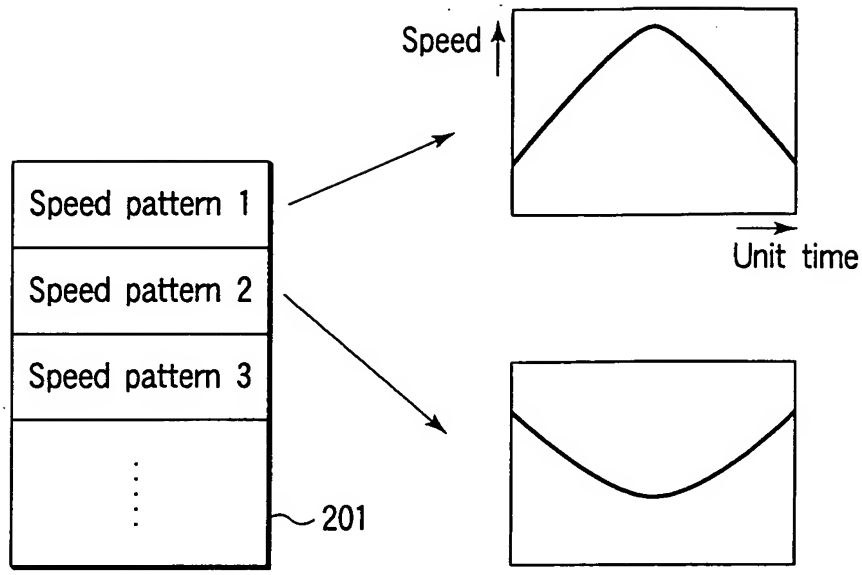

Speed
Speed pattern 1
Speed pattern 2
Speed pattern 3
201
Unit time

FIG. 48

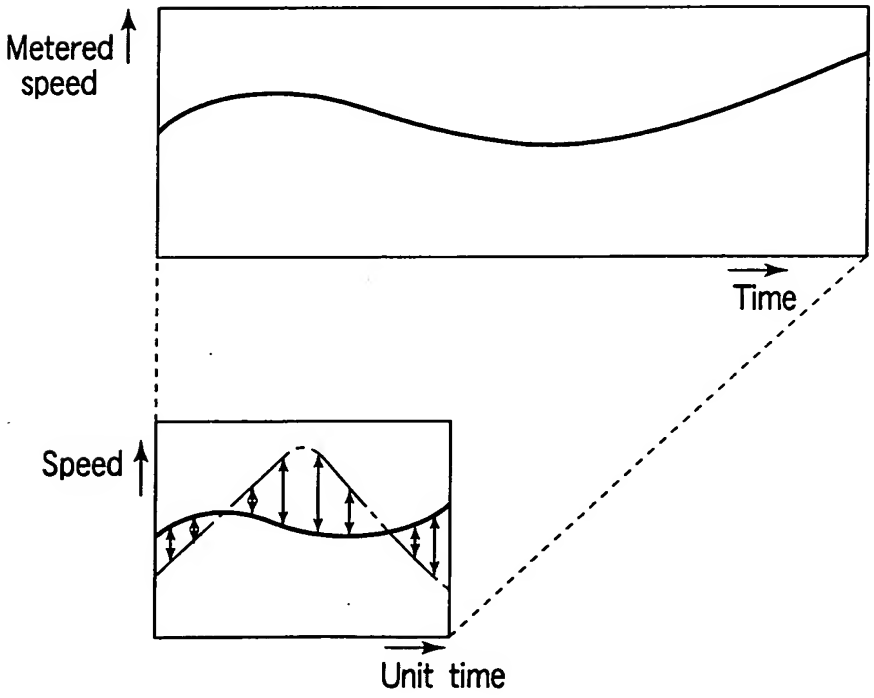

Metered speed
Time
Speed
Unit time

FIG. 49